IFW

PTO/SB/92 (08-03)
Approved for use through 07/31/2006. OMB 0561-0031
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Certificate of Mailing under 37 CFR 1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

on June 25, 2004.
Date

Melissa McCullin
Signature

MELISSA MCCULLIN
Typed or printed name of person signing Certificate

Note: Each paper must have its own certificate of mailing, or this certificate must identify each submitted paper.

10/829432
BB1167USCNT
INFORMATION DISCLOSURE STATEMENT
PTO/SB/08B FORMS (6)
POSTCARD

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE APPLICATION OF:

STEPHEN M. ALLEN

CASE NO.: BB1167USCNT

APPLICATION NO.: 10/829432

CONFIRMATION NO.:

GROUP ART UNIT: 1638

EXAMINER:

FILED: APRIL 21, 2004

FOR: SULFATE ASSIMILATION PROTEINS

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In compliance with 37 CFR 1.97 and 1.98, Applicants bring to the attention of the U.S. Patent and Trademark Office information listed on the enclosed PTO/SB/08 forms made of record in the parent application.

Benefit of the earlier filing date of U.S. Patent Application No. 09/720,384, filed December 21, 2000 is claimed under 35 U.S.C. 120 for the above-referenced application and only copies of information not previously made of record in the parent are enclosed.

Should any fee be required in connection with the filing of this Information Disclosure Statement, please charge such fee to Deposit Account No. 04-1928 (E. I. du Pont de Nemours and Company).

Respectfully submitted,

Dawn S. Clark

DAWN S. CLARK
AGENT FOR APPLICANT
Registration No.: 42,420
Telephone: (302) 695-1080
Facsimile: (302) 892-1026

Dated: June 23, 2004

Enclosures

Please type a plus sign (+) inside this box →

PTO/SB/08B(08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 2

Complete if Known	
Application Number	10/829,432
Filing Date	April 21, 2004
First Named Inventor	Saverio Carl Falco et al.
Group Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket Number	BB1167USCNT

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T [2]
		FRANK W. SMITH ET AL., PNAS, vol. 92:9373-9377, 9/1995, Plant Members of a Family of Sulfate Transporters Reveal Functional Subtypes	
		ANGELO BOLCHI ET AL., Plant Mol. Biology, vol. 39:527-537, 1999, Coordinate Modulation of Maize Sulfate Permease and ATP Sulfurylase mRNAs in Response to Variations in Sulfur Nutritional Status: Stereospecific Down-Regulation by L-Cysteine	
		AMIT SETYA ET AL., PNAS, vol. 93:13383-13388, 11/96, Sulfate Reduction in Higher Plants: Molecular Evidence for a Novel 5'-adenylylsulfate Reductase	
		KEIKO YONEKURA-SAKAKIBARA ET AL., J. Biochem., vol. 124:615-621, 1998, Molecular Characterization of Tobaco Sulfite Reductase: Enzyme Purification, Gene Cloning, and Gene Expression Analysis	
		KAZUKI SAITO ET AL., J. Biol. Chem., vol. 270(27):16321-16326, 7/7/1995, Molecular Cloning and Characterization of a Plant Serine Acetyltransferase Playing a Regulatory Role in Cysteine Biosynthesis from Watermelon	
		NATIONAL CENTER FOR BIOTECHNOLOGY INFORMATION GENERAL IDENTIFIER NO. 2832300, 8/10/98, ARZ, H.E., A cDNA for Adenylyl Sulphate (APS)-kinase from Arabidopsis Thaliana	
		NATIONAL CENTER FOR BIOTECHNOLOGY INFORMATION GENERAL IDENTIFIER NO. 1076283, 12/7/99, ARZ, H.E. ET AL., A cDNA for Adenylyl Sulphate (APS)-kinase from Arabidopsis Thaliana	
		HILDEGARD E. ARZ ET AL., Biochimica et Biophysica Acta, vol. 1218:447-452, 1994, A cDNA for Adenylyl Sulphate (APS)-kinase from Arabidopsis Thaliana	
		JULIE ANN BICK ET AL., Current Opinion in Plant biol., vol. 1(3):240-244, 6/1998, Plant Sulfur Metabolism - the Reduction of Sulfate to Sulfite	
		SANDRA SCHIFFMANN ET AL., FEBS Letters, vol. 355:229-232, 1994, APS-Sulfotransferase Activity is Identical to Higher Plant APS-kinase	
		AJAY JAIN ET AL., Plant Phys., vol. 105:771-772, 1994, A cDNA Clone for 5'-Adenylylphosphosulfate Kinase from Arabidopsis Thaliana	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → [+]

PTO/SB/08B(08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 2 of 2

Complete if Known	
Application Number	10/829,432
Filing Date	April 21, 2004
First Named Inventor	Saverio Carl Falco et al.
Group Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket Number	BB1167USCNT

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		CHEN, Y ET AL., Plant Phys.- Suppl., vol. 108(2):72, 6/1995, Sulfate-Regulated Expression of ATP Sulfurylase and Adenosine-5-'-Phosphosulfate Kinase in Brassica Juncea	
		SANGMAN LEE ET AL., Biochem. and Biophys. Res. Comm., vol. 247:171-175, 1998, APS Kinase from Arabidopsis thaliana: Genomic Organization, Expression, and Kinetic Analysis of the Recombinant Enzyme	
		WALBOT, V., EMBL ACCESSION NO. AI637166, 4/27/99, Maize ESTs from Various cDNA Libraries Sequenced at Stanford University, XP002123195	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → [+]

PTO/SB/08B(08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 3

Complete if Known	
Application Number	10/829,432
Filing Date	April 21, 2004
First Named Inventor	Saverio Carl Falco et al.
Group Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket Number	BB1167USCNT

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T [2]
		EMBL SEQUENCE LIBRARY DATA ACCESSION NO: D89631, 07-30-97, SOHLBERG, L.E. ET AL., Nucleotide Sequence of a cDNA encoding a Cys proteinase from germinating bean cotyledons, XP-0021299910	
		EMBL SEQUENCE LIBRARY DATA ACCESSION NO: O49307, 06-01-98, FEDERSPIEL, N.A. ET AL., XP-002129911	
		EMBL SEQUENCE LIBRARY DATA ACCESSION NO: D25000, 11-30-93, MINOBE, Y. ET AL., Rice cDNA from root, XP-002129912	
		FRANK W. SMITH ET AL., PNAS, Vol. 92:9373-9377, 9/1995, Plant members of a family of sulfate transporters reveal functional subtypes, XP-002129913	
		HIDEKI TAKAHASHI ET AL., Plant & Cell Phys., vol. 39 suppl, pp.S148, 1998, Antisense repression of sulfate transporter in transgenic Arabidopsis thaliana plants, XP-002121793	
		HIDEKI TAKAHASHI ET AL., PNAS, vol. 94:11102-11197, 9/1997, Regulation of sulfur assimilation in higher plants: A sulfate tmasporter induced in sulfate-starved roots plays a central role in Arabidopsis thaliana	
		EMBL SEQUENCE LIBRARY DATA ACCESSION NO: X96761, 03-25-97, NG, A. ET AL., Isolation & characterization of a lowly expressed cDNA from the resurrection grass Sporobolus stapfianus with homology to eukaryote sulfate transporter proteins, XP-002121791	
		EMBL SEQUENCE LIBRARY DATA ACCESSION NO: AF016306, 01-08-1998, BOLCHI, A. ET AL., Coordinate modulation of maize sulfate permease and ATP sulfate permease and ATP sulfurylase mRNAs in response to variations in sulfur nutritional status: stereospecific down-regulation by L-cysteine, XP-002121790	
		EMBL SEQUENCE DATA LIBRARY ACCESSION NO: O48889, 06-01-1998, BOLCHI, A. ET AL.	
		FRANK W. SMITH ET AL., The Plant Journal, vol. 12(4):875-884, 1997, Regulation of expression of a cDNA from barley roots encoding a high affinity sulphate transporter, XP-002129909	
		ANTJE PRIOR ET AL., Biochimica et Biophysica Acta, vol. 1430:25-38, 1999, Structural and kinetic properties of adenylyl sulfate reductase from Catharanthus roseus cell cultures	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box → [+]

PTO/SB/08B(08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 2 of 3

Complete if Known	
Application Number	10/829,432
Filing Date	April 21, 2004
First Named Inventor	Saverio Carl Falco et al.
Group Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket Number	BB1167USCNT

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T [2]
		SENTA HEISS ET AL., Plant Mol. Biol., vol. 39:847-857, 1999, Cloning sulfur assimlation genes of Brassica juncea L.: cadmium differentially affects the expression of a putative low-affinity sulfate transporter and isoforms of ATP sulfurylase and APS reductase	
		JOHN L. WRAY ET AL., Chemico-Biological Interactions, vol. 109:153-167, 1998, Redefining reductive sulfate assimilation in higher plants: a role for APS reductase, a new member of the thioredoxin superfamily?	
		JULIE ANN BICK ET AL., Current Opinion in Plant Biology, 1998, pp. 240-244, Plant sulfur metabolism - the reduction of sulfate to sulfite	
		JULIE-ANN BICK ET AL., PNAS, vol. 95:8404-8409, 7/1998, Glutareodxin function for the carboxyl-terminal domain of the plant-type 5'-adenylylsulfate reductase	
		JOSE F. GUTIERREZ-MARCOS ET AL., PNAS, vol. 93:13377-13382, 1996, Three members of a novel small gene-family from Arabidopsis thaliana able to complement funtionally an Escherichia coli mutant defective in PAPS reductase activity encode proteins with a thioredoxin-like domain and "APS reductase" activity	
		AMIT SETYA ET AL., PNAS, vol. 93:13383-13388, 1996, Sulfate reduction in higher plants: Molecular evidence for a novel 5'-adenylylsulfate reductase	
		EMBL SEQUENCE LIBRARY DATA ACCESSION NO: C27405, 08-06-97, SASAKI, T. ET AL., Rice cDNA from callus, XP-002121812	
		EMBL SEQUENCE LIBRARY DATA ACCESSION NO: AF071890, 06-29-98, MBEGUIE-A-MBEGUIE D. ET AL., Molecular cloning and partial nucleotide sequence of a sulfite reductase from apricot fruit, XP-002128211	
		EMBL SEQUENCE LIBRARY DATA ACCESSION NO: D50679, 12-01-97, IDEGUCHI, T. ET AL., cDNA cloning and functional expression of ferredoxin-dependent sulfite reductase from miaze in E. coli cells, XP-002128212	
		CHRISTINE BORK ET AL., Gene, vol. 212:147-153, 1998, Isolation and characterization of a gene for assimiliatory sulfite reductase from Arabidopsis thaliana	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) inside this box → [+]

PTO/SB/08B(08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 3 of 3

Complete if Known	
Application Number	10/829,432
Filing Date	April 21, 2004
First Named Inventor	Saverio Carl Falco et al.
Group Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket Number	BB1167USCNT

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T [2]
		ANDREAS BRUHL ET AL., Biochimia et Biophysica Acta, vol. 1295:119-124, 1996, A cDNA clone from Arabidopsis thaliana encoding plastidic ferredoxin: sulfite reductase	
		DATABASE WPI, DERWENT PUBL., LTD., JP-62 455773, MITSUBISHI CORP., 9/6/94, XP-002121814	
		EMBL SEQUENCE LIBRARY DATA ACCESSION NO: AU068082, 06/07/99, SASAKI, T. ET AL., Rice cDNA from callus, XP-002128630	
		EMBL SEQUENCE LIBRARY DATA ACCESSION NO: AQ688702, 07/02/99, YU, Y. ET AL., A BAC Encd sequencing framework to sequence the rice genome, XP-002128631	
		SAITO, K., Stress Responses of Photosynthetic organisms, 1998, pgs. 215-226, Molecualr Aspects of Sulfur Assimilation and Acclimiation to Sulfur Supply in Plants	
		KAZUKI SAITO ET AL., Plant Phys., vol. 106:887-895, 1994, Moedulation of Cystine Biosynthesis in Chloroplasts of Transgenic Tobacco Overexpressing Cystein Synthase [O-Acetylserine(thiol)-lyase]1	
		KAZUKI SAITO ET AL., Comptes Rendu De L'Academie Des Sciences, vol. 319:969-973, 1996, Molecular characterization of cysteine biosynthetic enzymes in plants	
		YOO, B. ET AL., Plant Phys. suppl., vol. 114:267, 1997, Regulation of recombinant soybean serine acetyltransferase by CDPK	
		EMBL SEQUENCE LIBRARY DATA ACCESSION NO: p93544, 05-01-97, SAITO, K. ET AL., XP-002128628	
		EMBL SEQUENCE LIBRARY DATA ACCESSION NO: C26373, 08-06-97, SASAKI, T. Rice cDNa from callus, XP-002128627	
		MICHAEL A. ROBERTS ET AL., Plant Molecular biology, vol. 30:1041-1049, 1996, Cloning and characterisation of an Arabidopsis thaliana cDNa clone encoding an organellar isoform of serine acetyltransferase	
		KAZUKI SAITO ET AL., Journ. of Biol. Chem., vol. 270(27):16321-16326, 1995, Molecular cloning and characterization of a Plant Serine acetyltransferase playing a regulatory role in cystein biosynthesis from watermelon	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] Unique citation designation number. [2] Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

PTO/SB/08b(05-03)
Approved for use through 04/30/2003. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	10/829,432
Filing Date	April 21, 2004
First Named Inventor	Stephen M. Allen Et. Al.
Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket Number	BB1167USCNT

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		DEYRUP, ANDREA T. et al., "Deletion and Site-directed Mutagenesis of the ATP-binding Motif (P-loop) in the Bifunctional Murine Atp-Sulfurylase/Adenosine 5'-Phosphosulfate Kinase Enzyme," The Journal of Biological Chemistry, April 17, 1998, pp. 9450-9456, Vol. 273, No. 16	☐
		MACRAE, IAN J. et al., "Crystal Structure of Adenosine 5'-Phosphosulfate Kinase from Penicillium chrysogenum," Biochemistry, 2000, pp. 1613-1621, Vol. 39	☐
		SATISHCHANDRAN, C. et al., "Characterization of the Phosphorylated Enzyme Intermediate Formed in the Adenosine 5'-Phosphosulfate Kinase Reaction," Biochemistry, 1992, pp. 11684-11688, Vol. 31	☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.